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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,117	07/31/2003	Hilda Elizabeth Smith	2183-6055US	5350
24247	7590	02/08/2006	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			HINES, JANA A	
			ART UNIT	PAPER NUMBER
			1645	
DATE MAILED: 02/08/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/632,117

Applicant(s)

SMITH, HILDA ELIZABETH

Examiner

Ja-Na Hines

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) 1-10 and 16-20 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 11-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/9/06.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. The restriction of July 26, 2005 has been withdrawn in view of applicants' amendments and arguments. Claims 1-10 and 16-20 have been withdrawn from consideration. Claim 11-15 are pending in this office action.

### ***Response to Arguments***

2. Applicant's arguments filed April 29, 2005 have been fully considered but they are not persuasive.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The written description rejection of claims 11-15 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is maintained. The rejection is on the grounds that the specification and claims lack sufficient written description of an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin comprising: a nucleotide sequence capable of hybridizing to the full length of a nucleotide sequence selected from the group of nucleotide sequences consisting of SEQ ID NO: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43; wherein the hybridizing occurs at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2.

Applicants' urge that the isolated or recombinant nucleic acid molecules are supported within the specification. However applicant points to sections which how the specific sequences where identified. The passages describe that the SEQ ID NO: 37 and SEQ ID NO:24 and 43 showed similarity to fibronectin-binding proteins, iron restricted induced genes. The specification states how SEQ ID NOS: 31, 33, 34 and 43 were selected. However applicants failed to point to support for an unknown nucleotide sequence hybridizing to the full length of a nucleotide sequence selected from SEQ ID NO: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43; wherein the hybridizing occurs at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2. Thus applicants were not in possession of nucleic acid molecules which hybridize to the SEQ ID Numbered sequences. There are no experiments which show the isolation or recombinant making of a nucleic acid molecule which hybridizes as instantly claimed. There are no vectors, host cells or compositions which comprise the isolated or recombinant nucleic acid molecule. It is noted that possession of SEQ ID NOS: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43 does not equate to possession of an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin comprising: a nucleotide sequence capable of hybridizing to the full length of SEQ ID NO: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43; which hybridizes at the recited conditions.

The specification does not place any structure, chemical or absolute functional limitations on the nucleic acid molecule per se. The recitation of a nucleic acid molecule does not convey a common structure or function. The scope of the claims includes numerous structural variants and the genus is highly variant because a significant

number of structural differences between the genus members are permitted. The specification fails to provide guidance on the structure of the nucleic acid molecules. Structural features that could distinguish molecules in the genus from others in the class are missing from the disclosure and the claims. No common structural attributes identify the members of the genus. It is noted that the nucleic acid molecule only be capable of hybridizing. The general knowledge and level of skill in the art do not supplement the omitted description, because specific, not general guidance is needed.

The skilled artisan cannot envision the detailed structure of an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin as instantly recited, thus conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. An adequate description requires more than a mere statement that it is part of the invention. The nucleic acid itself is required. See *Fiers v. Revel*, 25 USPQ 2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Lts.*, 18 USPQ2d 1016.

Even where there is an actual reduction to practice, which may demonstrate possession of an embodiment of an invention, it does not necessarily describe what the claimed invention is. The instant claims describe a nucleic acid molecule described by its function i.e., hybridization, however this description does not describe the claimed nucleic acid molecules themselves. See also, *In The Regents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), where the court held that a generic statement that defines a genus of nucleic acids by only their functional activity does not provide an adequate description of the genus. The court indicated that while applicants' are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules,

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usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...requires a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention". *Vas-Cath Inc. V. Mahurkar*, 19 USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of *the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." (See page 1117). The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). Conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. An adequate description requires more than a mere statement that it is part of the invention and a reference to a potential method of isolating it.

One skilled in the art would reasonably conclude that the disclosure fails to provide a representative number of species when the claims provide no structure to the described claimed genus. Applicants were not in possession of the claimed genus because the specification does not convey to one of skill in the art a representative number of nucleic acid molecules as instantly claimed. Thus the specification lacks written description for the claimed invention and full breadth of the claims fails to meet the written description provision of 35 USC 112, first paragraph. Moreover, one skilled in the art would not recognize that applicants had possession of the claimed isolated or recombinant nucleic acid molecules. Therefore, applicants' arguments were not persuasive and the rejection is maintained.

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4. The enablement rejection of claims 11-15 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement is maintained. The rejection is on the grounds that The specification fails to identify an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin comprising: a nucleotide sequence capable of hybridizing to the full length of a nucleotide sequence selected from the group of nucleotide sequences consisting of SEQ ID NO: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43; wherein the hybridizing occurs at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2.

Applicants' urge that paragraph [0066] describes how to make and use a nucleotide sequence that is capable of hybridizing to a nucleotide sequence of an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin. However this section fails to provide an enabling disclosure drawn to an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin comprising: a nucleotide sequence capable of hybridizing to the full length of a nucleotide sequence selected from the group of nucleotide sequences consisting of SEQ ID NO: 15, 16, 17, 24, 31, 33, 34, 37, 41 and 43; wherein the hybridizing occurs at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2. There is no teaching of isolated or recombinant nucleic acid molecules from *Streptococcus agalactiae*, *S. bovis*, *S. equi*, *S. pneumoniae*, *S. pyogenes*, *S. thermophilus* or *Viridans Streptococci* hybridizing at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2. there is no disclosure of any of these unknown nucleic acid molecules being comprised within a vector, host cell or

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composition. Such experimentation requires ingenuity beyond that expected of one of ordinary skill in the art. Such need for non-routine experimentation demonstrates that the specification is not enabled for any asserted use or well-established use of an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin.

Applicants' assert that paragraph [0079] provide a working example of an isolated or recombinant nucleic acid molecule, thus one of ordinary skill in the art would be able to make and use the instantly claimed isolated or recombinant nucleic acid molecule without undue experimentation. However this paragraph is drawn to cloning the *S. suis* fibronectin binding protein. There is no teaching of hybridization occurring at 65°C in a buffer having 0.5M sodium phosphate, 1mM EDTA and 7% sodium dodecyl sulphate at a pH of 7.2. There is no teaching that the unknown nucleotide sequence hybridized to the full length of SEQ ID NO:37. Therefore, the specification fails to enable an isolated or recombinant nucleic acid molecule of a *Streptococcus* origin as instantly claimed because the specification fails to teach the identity of such sequences.

The specification lacks any written description of a structure or relevant identifying characteristics of a representative number of nucleic acids sufficient to allow one skilled in the art to determine that the inventor had possession of the invention as claimed. In absence of further guidance, the skilled artisan would have to discover what the appropriate nucleic acid molecules would be. Such experimentation requires ingenuity beyond that expected of one of ordinary skill in the art. Such need for non-routine experimentation demonstrates that the specification is not enabled for any asserted use or well-established use of an isolated or recombinant nucleic acid



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molecule of a *Streptococcus* origin. No working examples are shown containing the missing information. Without such information, one of skill in the art could not predict which combination of nucleic acids would result in the desired nucleic acid molecule. Accordingly, one of skill in the art would be required to perform undue experimentation to use any nucleic acid at any location to produce such a nucleic acid molecule. Therefore, one skilled in the art could not make and/or use the invention without undue experimentation.

### ***Conclusion***

5. No claims allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ja-Na Hines whose telephone number is 571-272-0859. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on 571-272-0864. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ja-Na Hines 

January 31, 2006

  
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